

02-05-07

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Customer Number: 23446  
Attorney Docket No.: 14364US21

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

Application of:

Joseph J. Kubler, et al.

Patent No: 7,142,535

Issued: November 28, 2006

Serial No: 10/822,462

Filed: April 12, 2004

For: HIERARCHICAL DATA  
COLLECTION NETWORK SUPPORTING  
PACKETIZED VOICE  
COMMUNICATIONS AMONG  
WIRELESS TERMINALS AND  
TELEPHONES

**EXPRESS MAIL NO.: EV 726846622 US**

**DATE: February 2, 2007**

**REQUEST FOR CERTIFICATE OF CORRECTION UNDER §1.322(a)**

Commissioner for Patents  
Certificate of Corrections  
P.O. Box 1450  
Alexandria, VA 22313-1450

**Certificate**  
**FEB 08 2007**  
**of Correction**

Sir:

Pursuant to 37 CFR §1.322(a), Applicants hereby request a Certificate of Correction to be issued for the above-identified U.S. Patent correcting the patent as noted in the attached "Certificate of Correction" form PTO 1050 (Rev. 2-93). Issuance of the Certificate of Correction is necessary in order to correct errors made by the U.S. Patent and Trademark Office ("PTO").

**FEB 09 2007**

BEST AVAILABLE COPY

Specifically, the errors that need to be corrected are as follows:

Column 1, after line 16, please insert -- This application hereby incorporates herein by reference, the complete subject matter of each of the above referenced applications, in their entirety--. (The above omitted text is support by the Preliminary Amendment filed April 14, 2004, copy attached).

Column 1, line 63 through Column 2, line 50 should all be deleted. (This text was cancelled in the Preliminary Amendment filed April 14, 2004, copy attached).

Column 105, claim 14, line 27, please delete "machine-readable" and insert -- computer-readable--.

Column 105, claim 15, line 29, please delete "computer-redable" and insert -- computer-readable--.

Column 105, claim 20, line 64, please delete "on" and insert -- one--.

Column 108, claim 46, line 32, please delete "on" and insert -- one--.

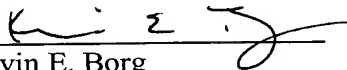
To support the above changes, enclosed please find a copy of the Preliminary Amendment filed April 12, 2004 along with a copy of the text of pages 1-5 of the parent file, U.S. Application Serial No. 10/141,506 filed May 8, 2002, indicating the cancelled text. In addition, enclosed are copies of the Response to Office Action filed May 9, 2006 and the Examiner's Amendment received with the Notice of Allowance dated July 17, 2006 supporting all changes made in the claims.

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No additional fees are believed due, but in the event that any additional fees are required for the filing of this request, the Commissioner is authorized to charge Deposit Account No. 13-0017, in the name of McAndrews, Held & Malloy, Ltd.

Respectfully submitted,

Dated: February 2, 2007

  
Kevin E. Borg  
Registration No. 51,486

McANDREWS, HELD & MALLOY, LTD.  
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Chicago, Illinois 60661  
Telephone: (312) 775-8000  
Facsimile: (312) 775-8100

FEB 09 2007

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO : 7,142,535  
APPLICATION NO.: 10/822,462  
DATED : November 28, 2006  
INVENTOR(S) : Joseph J. Kubler, et al.

It is certified that error appears or errors appear in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

Column 1, after line 16, please insert -- This application hereby incorporates herein by reference, the complete subject matter of each of the above referenced applications, in their entirety.

Column 1, line 63 through Column 2, line 50 should all be deleted.

Column 105, claim 14, line 27, please delete "machine-readable and insert -- computer-readable --.

Column 105, claim 15, line 29, please delete "computer-redable" and insert --computer readable --.

Column 105, claim 20, line 64, please delete "on" and insert -- one --.

Column 108, claim 46, line 32, please delete "on" and insert -- one --.

MAILING ADDRESS OF SENDER (Please do not use customer number below):

McAndrews, Held & Malloy  
500 West Madison Street, 34<sup>th</sup> Floor  
Chicago, IL 60661

This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

9 2007

## UNITED STATES PATENT AND TRADEMARK OFFICE CERTIFICATE OF CORRECTION

Page 1 of 1

PATENT NO : 7,142,535  
APPLICATION NO.: 10/822,462  
DATED : November 28, 2006  
INVENTOR(S) : Joseph J. Kubler, et al.

It is certified that error appears or errors appear in the above-identified patent and that said Letters Patent are hereby corrected as shown below:

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Column 1, line 63 through Column 2, line 50 should all be deleted.

Column 105, claim 14, line 27, please delete "machine-readable and insert -- computer-readable --.

Column 105, claim 15, line 29, please delete "computer-redable" and insert --computer readable --.

Column 105, claim 20, line 64, please delete "on" and insert -- one --.

Column 108, claim 46, line 32, please delete "on" and insert -- one --.

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This collection of information is required by 37 CFR 1.322, 1.323, and 1.324. The information is required to obtain or retain a benefit by the public which is to file (and by the USPTO to process) an application. Confidentiality is governed by 35 U.S.C. 122 and 37 CFR 1.14. This collection is estimated to take 1.0 hour to complete, including gathering, preparing, and submitting the completed application form to the USPTO. Time will vary depending upon the individual case. Any comments on the amount of time you require to complete this form and/or suggestions for reducing this burden, should be sent to the Chief Information Officer, U.S. Patent and Trademark Office, U.S. Department of Commerce, P.O. Box 1450, Alexandria, VA 22313-1450. DO NOT SEND FEES OR COMPLETED FORMS TO THIS ADDRESS. SEND TO: Attention Certificate of Corrections Branch, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450.

*If you need assistance in completing the form, call 1-800-PTO-9199 and select option 2.*

NOV 09 2007



IN THE UNITED STATES PATENT AND TRADEMARK OFFICE  
(Our Case No. 14364US21)

In The Application Of:

Kubler et al.

Continuation of:  
Serial No.: 10/141,506

Filed: May 8, 2002

Examiner: David Robert Vincent

Group Art Unit: 2661

For: HIERARCHICAL DATA  
COLLECTION NETWORK  
SUPPORTING PACKETIZED  
VOICE COMMUNICATIONS  
AMONG WIRELESS TERMINALS  
AND TELEPHONES

**EXPRESS MAIL**

Label No.: EV 435261055 US

Date: April 12, 2004

By: Kevin E. Borg  
Reg. No. 51,486  
Agent for applicant

**PRELIMINARY AMENDMENT**

Mail Stop Patent Application  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This is a Preliminary Amendment for a concurrently filed application (Docket No. 14364US21) which is a continuation of Application Serial No. 10/141,506 filed May 8, 2002. Please amend the above-identified application as follows.

REC'D 9 2007

**IN THE SPECIFICATION**

Cancel the section "CROSS-REFERENCE TO RELATED APPLICATIONS" and substitute therefore the following new section:

**CROSS-REFERENCE TO RELATED APPLICATIONS  
(Claiming Benefit Under 35 U.S.C.)**

This application is a continuation of U.S. Serial No. 10/141,506 filed May 8, 2002, (Attorney Docket Nos. 14364US01 and DN37998XGB) which is a continuation of U.S. Serial No. 09/037,535 filed March 10, 1998, now U.S. Patent No. 6,389,010 issued May 14, 2002, which is a continuation of U.S. Serial No. 08/539,817 filed October 5, 1995, now U.S. Patent No. 5,726,984 issued March 10, 1998.

This application hereby incorporates herein by reference, the complete subject matter of each of the above referenced applications, in their entirety.

After the section "CROSS-REFERENCE TO RELATED APPLICATIONS" insert the following new section:

**STATEMENT REGARDING FEDERALLY SPONSORED  
RESEARCH OR DEVELOPMENT**

N/A

## IN THE CLAIMS

Claims 1-21 (Canceled).

22. (New) A circuit for processing data representative of voice signals, the circuit having two signal paths comprising:

in a first signal path,

a queue for storing first voice data representative of a first voice signal; and

a digital to analog converter having an output, the digital to analog converter for receiving the first voice data from the queue, the digital to analog converter converting the first voice data to a first analog representation of the first voice signal, and,

in a second signal path,

an analog to digital converter having an input, the analog to digital converter for converting a second analog representation of a second voice signal to second voice data; and

signal processing circuitry for removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data.

23. (New) The circuit of claim 22 wherein the signal processing circuitry comprises a subtractor.

24. (New) The circuit of claim 22 wherein the signal processing circuitry delays the voice data representative of a portion of the first voice data.

25. (New) The circuit of claim 22 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

26. (New) The circuit of claim 22 further comprising:



at least one processor capable of processing received voice packets into the first voice data; and

the at least one processor capable of processing the second voice data into transmit voice packets.

27. (New) The circuit of claim 26 wherein the at least one processor is capable of adjusting the operation of the queue according to a rate of packet arrival.

28. (New) The circuit of claim 22 wherein the operation of the queue is adjusted based upon a propagation delay of a communication network.

29. (New) The circuit of claim 22 further comprising:

at least one signal coupling circuit for coupling voice signals from a two wire telephone network connection to the input of the analog to digital converter; and

the at least one signal coupling circuit for coupling voice signals from the output of the digital to analog converter to the two wire telephone network connection.

30. (New) A method of processing data representative of voice signals, the method comprising:

receiving first voice data representative of a first voice signal;

queuing the first voice data;

converting the first voice data into a first analog representation of the first voice signal;

converting a second analog representation of a second voice signal into second voice data; and

removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data.

31. (New) The method of claim 30 wherein removing comprises subtracting.

32. (New) The method of claim 30 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

33. (New) The method of claim 30 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

34. (New) The method of claim 30 further comprising:  
processing received voice packets to produce the first voice data; and  
processing the second voice data to produce transmit voice packets.

35. (New) The method of claim 30 further comprising:  
adjusting queuing and converting the first voice data according to a rate of packet arrival.

36. (New) The method of claim 30 further comprising:  
coupling to a two-wire telephone network connection, voice signals representing the first analog representation of the first voice signal; and  
coupling voice signals from the two wire telephone network connection to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

37. (New) A machine-readable storage, having stored thereon a computer program having a plurality of code sections for processing data representative of voice signals, the code sections executable by a machine for causing the machine to perform the operations comprising:

receiving first voice data representative of a first voice signal;  
queuing the first voice data;  
converting the first voice data into a first analog representation of the first voice signal;

converting a second analog representation of a second voice signal into second voice data; and

removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data.

38. (New) The machine-readable storage of claim 37 wherein removing comprises subtracting.

39. (New) The machine-readable storage of claim 37 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

40. (New) The machine-readable storage of claim 37 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

41. (New) The machine-readable storage of claim 37 wherein the operations further comprise:

processing received voice packets to produce the first voice data; and  
processing the second voice data to produce transmit voice packets.

42. (New) The machine-readable storage of claim 37 wherein the operations further comprise:

adjusting queuing and converting the first voice data according to a rate of packet arrival.

43. (New) The machine readable storage of claim 37 wherein the operations further comprise:

adjusting queuing and converting the first voice data according to a propagation delay of a communication network.

44. (New) The machine-readable storage of claim 37 wherein the operations further comprise:

coupling to a two-wire telephone network connection, voice signals representing the first analog representation of the first voice signal; and

coupling voice signals from the two wire telephone network connection to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

45. (New) A system for processing data representative of voice signals, the system comprising:

at least one processor capable of receiving first voice data representative of a first voice signal;

the at least one processor capable of queuing the first voice data;

the at least one processor capable of converting the first voice data into a first analog representation of the first voice signal;

the at least one processor capable of converting a second analog representation of a second voice signal into second voice data; and

the at least one processor capable of removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data.

46. (New) The system of claim 45 wherein removing comprises subtracting.

47. (New) The system of claim 45 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

48. (New) The system of claim 45 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

49. (New) The system of claim 45 wherein the at least one processor is capable of processing received voice packets to produce the first voice data, and the at least one processor is capable of processing the second voice data to produce transmit voice packets.

50. (New) The system of claim 45 wherein the at least one processor is capable of adjusting queuing and converting the first voice data according to a rate of packet arrival.

51. (New) The system of claim 45 wherein the at least one processor is capable of adjusting queuing and converting the first voice data according to a propagation delay of a communication network.

52. (New) The system of claim 45 wherein the voice signals representing the first analog representation of the first voice signal are communicatively coupled to a two-wire telephone network connection, and voice signals from the two wire telephone network connection are communicatively coupled to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

**REMARKS**

Claims 1-21 of the parent application Serial No. 10/141,506 as filed have been cancelled and new claims 22-52 have been added herein.

An early Office Action on the merits and allowance of claims 22-52 is respectfully requested.

Respectfully submitted,

Dated: April 12, 2004

By KE-E-B  
Kevin E. Borg  
Reg. No. 51,486

McAndrews, Held & Malloy, Ltd.  
500 West Madison Street  
34th Floor  
Chicago, Illinois 60661  
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Express Mail Label  
No. ET 196 033 195 US

PATENT APPLICATION  
Atty. Docket No. 37998XGB

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

TITLE: HIERARCHICAL DATA COLLECTION NETWORK SUPPORTING  
PACKETIZED VOICE COMMUNICATIONS AMONG WIRELESS  
TERMINALS AND TELEPHONES

CROSS REFERENCE TO RELATED APPLICATIONS  
(Claiming Benefit Under 35 U.S.C. 120)

This application is a continuation of U.S. Application No. 09/037,535, filed March 10, 1998, which is a continuation of U.S. Application No. 08/539,817, filed October 5, 1995, now U.S. Patent No. 5,726,984 issued March 10, 1998, said Application No. 08/539,817 being a continuation in part of U.S. Application Serial No. 08/487,609, filed June 7, 1995 (Attorney Docket Nos. 10082US12 and DN37998XE), which is a continuation in part of U.S. Application Serial Numbers: a) 08/279,148, filed July 22, 1994 (Attorney Docket Nos. 10082US11; DN37998XD); b) 07/876,629, filed April 30, 1992 (Attorney Docket Nos. 92P275; DN36837D); and c) 08/267,758, filed July 5, 1994 (Attorney Docket Nos. 10554US02; DN37613A).

The application U.S. Serial No. 08/279,148 is a continuation-in-part of: PCT Application Serial No. PCT/US94/05037 filed May 6, 1994 (Attorney Docket Nos. 10082WO08; DN37998XAX); U.S. Application Serial No. 08/205,639 filed March 4, 1994 (Attorney Docket Nos. DN37139XXA; 10458US03); and U.S. Application Serial No.

FEB 09 2007

08/275,821, filed June 10, 1994 (Attorney Docket Nos. 10082US10; DN37998XC).

PCT Application Serial No. PCT/US94/05037 is based on U.S. Application Serial No. 08/198,404, filed February 22, 1994 (Attorney Docket Nos. 10082US07; DN37998XA), which is itself a continuation of U.S. Application Serial No. 08/198,452, filed February 18, 1994 (Attorney Docket Nos. 10082US06; DN37998X), which is in turn a continuation-in-part of U.S. Application Serial No. 08/168,478, filed December 16, 1993 (Attorney Docket Nos. 10092US06; DN37998E), and PCT Application Serial No. PCT/US93/12628 filed December 23, 1993 (Attorney Docket Nos. DN37967C and 10082WO01). The application U.S. Serial No. 08/168,478 is a continuation-in-part of U.S. Application Serial No. 08/147,377 filed November 3, 1993 (Attorney Docket No. DN37998D), which is a continuation-in-part of U.S. Application Serial No. 08/101,254 filed August 3, 1993 (Attorney Docket No. DN37998C), which is itself a continuation-in-part of U.S. Application Serial No. 08/085,662 filed June 29, 1993 (Attorney Docket No. DN37998B), which is itself a continuation-in-part of U.S. Application Serial No. 08/076,340 filed June 11, 1993

FEB 09 2007



(Attorney Docket No. DN37998A), which is in turn a continuation-in-part of U.S. Application Serial No. 08/062,457, filed May 11, 1993 (Attorney Docket No. DN37998).

5 PCT Application Serial No. PCT/US93/12628 is based on pending U.S. Application Serial No. 08/027,140 filed March 5, 1993 (Attorney Docket Nos. DN37967B; 10082US05), which is itself a continuation-in-part of U.S. Application Serial 07/997,693 filed December 23, 1992 (Attorney Docket Nos. 10 DN37967A; 10005US02), now abandoned, which is a continuation-in-part of U.S. Application Serial No. 07/982,292 filed November 27, 1992 (Attorney Docket Nos. DN37967; 92 P 837), now abandoned, which is itself a continuation-in-part of U.S. Application Serial No. 15 07/700,704 filed May 14, 1991 (Attorney Docket Nos. DN37834X; 91P383), now abandoned, which is itself a continuation-in-part of U.S. Application Serial No. 07/699,818 filed May 13, 1991 (Attorney Docket Nos. DN37834; 91P862), now abandoned.

20 The application U.S. Serial No. 08/205,639 is a continuation-in-part of U.S. Application Serial No. 07/735,128 filed July 22, 1991 (Attorney Docket Nos.

DN37139XX; 91P326), which is itself a continuation-in-part of U.S. Application Ser. No. 07/467,096 filed January 18, 1990 (Attorney Docket Nos. DN37139), now U.S. Patent No. 5,052,020.

5 U.S. Application Serial No. 08/062,457 is a continuation in part of U.S. Serial No. 07/876,776, filed April 28, 1992 (Attorney Docket Nos. 92P334; DN36649XZB), which is itself a continuation in part of U.S. Serial No. 07/854,115, filed March 18, 1992 (Attorney Docket Nos. 10 92P241; DN36649XZA), which is in turn a continuation in part of U.S. Serial No. 07/558,895, filed July 25, 1990 (Attorney Docket Nos. 91P387; DN36649XZ). U.S. Serial No. 07/558,895 is a continuation in part of U.S. Serial No. 07/529,353, filed May 25, 1990 (Attorney Docket Nos. 91P869; DN36649XY), 15 which is itself a continuation in part of U.S. Serial No. 07/347,602, filed May 3, 1989 (Attorney Docket Nos. 91P386; DN36649XX), which is itself a continuation of U.S. Serial No. 07/345,771, filed May 2, 1989 (Attorney Docket Nos. 91P844; DN36649Y), which is itself a continuation of U.S. 20 Serial No. 07/345,200, filed April 28, 1989 (Attorney Docket Nos. 91P423; DN36649X), which is itself a continuation of

U.S. Serial No. 07/305,302, filed January 31, 1989 (Attorney Docket Nos. 91P422; DN36649).

The application U.S. Serial No. 07/876,629 is also a continuation in part of U.S. Serial No. 07/854,115, filed  
5 March 18, 1992 (Attorney Docket No. DN36649XZA), with its parentage as listed above.

The application U.S. Serial No. 08/267,758 is a continuation in part of U.S. Serial No. 07/748,150, filed August 21, 1991 (Attorney Docket Nos. 10554US01; DN37613),  
10 now issued as U.S. Patent No. 5,349,678 on September 20, 1994.

#### INCORPORATION BY REFERENCE

The above referenced applications, PCT Application No. PCT/US92/08610 filed October 1, 1992, as published under  
15 International Publication No. WO 93/07691 on April 15, 1993, together with U.S. Patent No. 5,070,536, by Mahany et al., U.S. Patent No. 4,924,426, by Sojka, and U.S. Patent No. 4,910,794, by Mahany, are incorporated herein by reference in their entirety, including drawings and appendices, and  
20 hereby are made a part of this application.

FEB 09 2007



**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Attorney Docket No.: 14364US21**

**PATENT**

In the Application of:  
Joseph J. Kubler, et al.

Serial No.: 10/822,462

Filed: April 12, 2004

For: HIERARCHICAL DATA  
COLLECTION NETWORK  
SUPPORTING PACKETIZED VOICE  
COMMUNICATIONS AMONG  
WIRELESS TERMINALS AND  
TELEPHONES

Examiner: NGUYEN, BRIAN D.

Group Art Unit: 2661

Confirmation No.: 4632

**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States Postal Service as first class mail in an envelope addressed to: Mail Stop Amendment, Commissioner for Patents, P.O. Box 1450, Alexandria, VA 22313-1450 on:

Date: May 9, 2006

By: Kevin E. Borg  
Registration No. 51,486

**RESPONSE**

Mail Stop Amendment  
Commissioner for Patents  
P.O. Box 1450  
Alexandria, VA 22313-1450

Dear Sir:

This paper responds to the Office action mailed February 9, 2006 in the above-identified application (the "Application"). Applicants respectfully request entry of the following amendments and consideration of the following remarks.

**Amendments to the Specification** begin on page 2 of this paper.

**Amendments to the Claims** are reflected in the listing of claims that begins on page 5 of this paper.

**Remarks** begin on page 17 of this paper.

FEB 09 2007

**AMENDMENTS TO THE SPECIFICATION**

Please amend the paragraph on page 2 of the Application that begins with the text, "This application is a continuation...", as follows:

This application is a continuation of U.S. Serial No. 10/141,506 filed May 8, 2002, (Attorney Docket Nos. 14364US01 and DN37998XGB), now U.S. Patent No. 6,850,510 issued February 1, 2005, which is a continuation of U.S. Serial No. 09/037,535 filed March 10, 1998, now U.S. Patent No. 6,389,010 issued May 14, 2002, which is a continuation of U.S. Serial No. 08/539,817 filed October 5, 1995, now U.S. Patent No. 5,726,984 issued March 10, 1998.

Please insert the following new paragraphs after the existing text of the section titled "CROSS REFERENCE TO RELATED APPLICATIONS" and immediately before the section title "STATEMENT REGARDING FEDERALLY SPONSORED RESEARCH OR DEVELOPMENT":

The subject matter of the present application is related to the following United States Patent Applications:

United State Patent Application Ser. No. 10/682,591 (Attorney Docket No. 14364US02), filed October 9, 2003;

United States Patent Application Ser. No. 10/701,865 (Attorney Docket No. 14364US03), filed November 5, 2003;

United States Patent Application Ser. No. 10/760,057 (Attorney Docket No. 14364US04), filed January 16, 2004;

United States Patent Application Ser. No. 10/760,035 (Attorney Docket No. 14364US05), filed January 16, 2004;

United States Patent Application Ser. No. 10/759,969 (Attorney Docket No. 14364US06), filed January 16, 2004;

United States Patent Application Ser. No. 10/760,167 (Attorney Docket No. 14364US07), filed January 16, 2004;

Appln. No.: 10/822,462  
Response dated May 9, 2006  
Reply to Office Action of February 9, 2006

United States Patent Application Ser. No. 10/783,587 (Attorney Docket No. 14364US08), filed February 20, 2004;  
United States Patent Application Ser. No. 10/783,572 (Attorney Docket No. 14364US09), filed February 20, 2004;  
United States Patent Application Ser. No. 10/760,322 (Attorney Docket No. 14364US10), filed January 16, 2004;  
United States Patent Application Ser. No. 10/706,425 (Attorney Docket No. 14364US11), filed November 12, 2003;  
United States Patent Application Ser. No. 10/801,472 (Attorney Docket No. 14364US12), filed March 16, 2004;  
United States Patent Application Ser. No. 10/783,888 (Attorney Docket No. 14364US13), filed February 20, 2004;  
United States Patent Application Ser. No. 10/784,005 (Attorney Docket No. 14364US14), filed February 20, 2004, now U.S. Patent No. 6,961,312, issued November 1, 2005;  
United States Patent Application Ser. No. 10/783,873 (Attorney Docket No. 14364US15), filed February 20, 2004;  
United States Patent Application Ser. No. 10/783,883 (Attorney Docket No. 14364US16), filed February 20, 2004;  
United States Patent Application Ser. No. 10/783,477 (Attorney Docket No. 14364US17), filed February 20, 2004;  
United States Patent Application Ser. No. 10/783,894 (Attorney Docket No. 14364US18), filed February 20, 2004;  
United States Patent Application Ser. No. 10/783,437 (Attorney Docket No. 14364US19), filed February 20, 2004;  
United States Patent Application Ser. No. 10/783,375 (Attorney Docket No. 14364US20), filed February 20, 2004;  
United States Patent Application Ser. No. 11/183,704 (Attorney Docket No. 14364US22), filed July 18, 2005;  
United States Patent Application Ser. No. 10/839,373 (Attorney Docket No. 14364US23), filed May 5, 2004; and

13092007

Appln. No.: 10/822,462  
Response dated May 9, 2006  
Reply to Office Action of February 9, 2006

United States Patent Application Ser. No. 10/822,447 (Attorney Docket No. 14364US24), filed April 8, 2004.

Please insert the attached sheet numbered as page 122 immediately following page 121 and before page 123 of the Application as filed.

Attachment: One (1) sheet of text, numbered as page 122.

FEB 09 2007

**AMENDMENTS TO THE CLAIMS**

Claims 1-21 were originally filed in the Application on April 12, 2004. A Preliminary Amendment that accompanied the Application cancelled original claims 1-21, and added new claims 22-52. All of claims 22-52 were rejected in the Office action mailed August 22, 2005, to which Applicants filed a response on November 17, 2005. Claims 22-26, 29-34, 36-41, 44-49 and 52 stand rejected, and claims 27, 28, 35, 42, 43, 50 and 51 are objected to in the Office action of February 9, 2006. Claims 26, 27, 35, 42 and 50 are cancelled and new claims 53-77 are added by this amendment. Claims 22, 30, 37, 45, 53, 59, 66 and 72 are independent claims. Claims 23-29, 31-36, 38-44, 46-52, 54-58, 60-65, 67-71 and 73-77 depend, either directly or indirectly, from independent claims 22, 30, 37, 45, 53, 59, 66 and 72, respectively.

**Listing of Claims:**

Claims 1-21 (Canceled).

Claim 22. (Currently amended) A circuit for processing data representative of voice signals, the circuit having two signal paths comprising:

in a first signal path,

a queue for storing first voice data representative of a first voice signal; and

a digital to analog converter having an output, the digital to analog converter for receiving the first voice data from the queue, the digital to analog converter converting the first voice data to a first analog representation of the first voice signal, and,

in a second signal path,

an analog to digital converter having an input, the analog to digital converter for converting a second analog representation of a second voice signal to second voice data;

and

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signal processing circuitry for removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data, and  
wherein the circuit further comprises at least one processor that enables processing of received voice packets into the first voice data and processing of the second voice data into transmit voice packets; and  
wherein the at least one processor enables adjusting the operation of the queue according to a rate of packet arrival.

Claim 23. (Previously presented) The circuit of claim 22 wherein the signal processing circuitry comprises a subtractor.

Claim 24. (Previously presented) The circuit of claim 22 wherein the signal processing circuitry delays the voice data representative of the portion of the first voice data.

Claim 25. (Previously presented) The circuit of claim 22 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 26. (Cancelled)

Claim 27. (Cancelled)

Claim 28. (Previously presented) The circuit of claim 22 wherein the operation of the queue is adjusted based upon a propagation delay of a communication network.

Claim 29. (Previously presented) The circuit of claim 22 further comprising:  
at least one signal coupling circuit for coupling voice signals from a two wire telephone network connection to the input of the analog to digital converter; and

the at least one signal coupling circuit for coupling voice signals from the output of the digital to analog converter to the two wire telephone network connection.

Claim 30. (Currently amended) A method of processing data representative of voice signals, the method comprising:

receiving first voice data representative of a first voice signal;  
queuing the first voice data;  
converting the first voice data into a first analog representation of the first voice signal;  
converting a second analog representation of a second voice signal into second voice data; and

removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

adjusting queuing and converting the first voice data according to a rate of packet arrival.

Claim 31. (Previously presented) The method of claim 30 wherein removing comprises subtracting.

Claim 32. (Previously presented) The method of claim 30 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

Claim 33. (Previously presented) The method of claim 30 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 34. (Previously presented) The method of claim 30 further comprising:  
processing received voice packets to produce the first voice data; and  
processing the second voice data to produce transmit voice packets.

Claim 35. (Cancelled)

Claim 36. (Previously presented) The method of claim 30 further comprising:  
coupling to a two-wire telephone network connection, voice signals representing the first analog representation of the first voice signal; and

coupling voice signals from the two wire telephone network connection to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

Claim 37. (Currently amended) A machine-readable storage, having stored thereon a computer program having a plurality of code sections for processing data representative of voice signals, the code sections executable by a machine for causing the machine to perform the operations comprising:

receiving first voice data representative of a first voice signal;

queuing the first voice data;

converting the first voice data into a first analog representation of the first voice signal;

converting a second analog representation of a second voice signal into second voice data; and

removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

adjusting queuing and converting the first voice data according to a rate of packet arrival.

Claim 38. (Previously presented) The machine-readable storage of claim 37 wherein removing comprises subtracting.

Claim 39. (Previously presented) The machine-readable storage of claim 37 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

Claim 40. (Previously presented) The machine-readable storage of claim 37 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 41. (Previously presented) The machine-readable storage of claim 37 wherein the operations further comprise:

processing received voice packets to produce the first voice data; and

processing the second voice data to produce transmit voice packets.

Claim 42. (Cancelled)

Claim 43. (Previously presented) The machine readable storage of claim 37 wherein the operations further comprise:

adjusting queuing and converting the first voice data according to a propagation delay of a communication network.

Claim 44. (Previously presented) The machine-readable storage of claim 37 wherein the operations further comprise:

coupling to a two-wire telephone network connection, voice signals representing the first analog representation of the first voice signal; and

coupling voice signals from the two wire telephone network connection to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

Claim 45. (Currently amended) A system for processing data representative of voice signals, the system comprising:

at least one processor that enables receiving first voice data representative of a first voice signal;

the at least one processor enabling queuing the first voice data;

the at least one processor enabling converting the first voice data into a first analog representation of the first voice signal;

the at least one processor enabling converting a second analog representation of a second voice signal into second voice data; and

the at least one processor enabling removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

wherein the at least one processor enables adjusting queuing and converting the first voice data according to a rate of packet arrival.

Claim 46. (Previously presented) The system of claim 45 wherein removing comprises subtracting.

Claim 47. (Previously presented) The system of claim 45 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

Claim 48. (Previously presented) The system of claim 45 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 49. (Previously presented) The system of claim 45 wherein the at least one processor enables processing of received voice packets to produce the first voice data, and enables processing of the second voice data to produce transmit voice packets.

Claim 50. (Cancelled)

Claim 51. (Previously presented) The system of claim 45 wherein the at least one processor enables adjusting queuing and converting the first voice data according to a propagation delay of a communication network.

Claim 52. (Previously presented) The system of claim 45 wherein the voice signals representing the first analog representation of the first voice signal are communicatively coupled to a two-wire telephone network connection, and voice signals from the two wire telephone network connection are communicatively coupled to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

Claim 53. (New) A circuit for processing data representative of voice signals, the circuit having two signal paths comprising:

in a first signal path,

a queue for storing first voice data representative of a first voice signal; and

a digital to analog converter having an output, the digital to analog converter for receiving the first voice data from the queue, the digital to analog converter converting the first voice data to a first analog representation of the first voice signal, and,

in a second signal path,

an analog to digital converter having an input, the analog to digital converter for converting a second analog representation of a second voice signal to second voice data;

signal processing circuitry for removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

wherein the operation of the queue is adjusted based upon a propagation delay of a communication network.

Claim 54. (New) The circuit of claim 53 wherein the signal processing circuitry comprises a subtractor.

Claim 55. (New) The circuit of claim 53 wherein the signal processing circuitry delays the voice data representative of the portion of the first voice data.

Claim 56. (New) The circuit of claim 53 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 57. (New) The circuit of claim 53 further comprising:  
at least one processor that enables processing of received voice packets into the first voice data; and

the at least one processor enabling processing of the second voice data into transmit voice packets.

Claim 58. (New) The circuit of claim 53 further comprising:  
at least one signal coupling circuit for coupling voice signals from a two wire telephone network connection to the input of the analog to digital converter; and

the at least one signal coupling circuit for coupling voice signals from the output of the digital to analog converter to the two wire telephone network connection.

Claim 59. (New) A method of processing data representative of voice signals, the method comprising:

receiving first voice data representative of a first voice signal;

queuing the first voice data;

converting the first voice data into a first analog representation of the first voice signal;

converting a second analog representation of a second voice signal into second voice data;

removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

adjusting operation of the queue based upon a propagation delay of a communication network.

Claim 60. (New) The method of claim 59 wherein removing comprises subtracting.

Claim 61. (New) The method of claim 59 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

Claim 62. (New) The method of claim 59 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 63. (New) The method of claim 59 further comprising:  
processing received voice packets to produce the first voice data; and  
processing the second voice data to produce transmit voice packets.

Claim 64. (New) The method of claim 59 further comprising adjusting operation of the queue according to a rate of packet arrival.

Claim 65. (New) The method of claim 59 further comprising:  
coupling to a two-wire telephone network connection, voice signals representing the first analog representation of the first voice signal; and

coupling voice signals from the two wire telephone network connection to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.



Claim 66. (New) A machine-readable storage, having stored thereon a computer program having a plurality of code sections for processing data representative of voice signals, the code sections executable by a machine for causing the machine to perform the operations comprising:

receiving first voice data representative of a first voice signal;

queuing the first voice data;

converting the first voice data into a first analog representation of the first voice signal;

converting a second analog representation of a second voice signal into second voice data;

removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

adjusting queuing and converting the first voice data according to a propagation delay of a communication network.

Claim 67. (New) The machine-readable storage of claim 66 wherein removing comprises subtracting.

Claim 68. (New) The machine-readable storage of claim 66 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

Claim 69. (New) The machine-readable storage of claim 66 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 70. (New) The machine-readable storage of claim 66 wherein the operations further comprise:

processing received voice packets to produce the first voice data; and

processing the second voice data to produce transmit voice packets.

Claim 71. (New) The machine-readable storage of claim 66 wherein the operations further comprise:

coupling to a two-wire telephone network connection, voice signals representing the first analog representation of the first voice signal; and

coupling voice signals from the two wire telephone network connection to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

Claim 72. (New) A system for processing data representative of voice signals, the system comprising:

at least one processor that enables receiving first voice data representative of a first voice signal;

the at least one processor enabling queuing the first voice data;

the at least one processor enabling converting the first voice data into a first analog representation of the first voice signal;

the at least one processor enabling converting a second analog representation of a second voice signal into second voice data;

the at least one processor enabling removing from the second voice signal represented by the second voice data, a portion of the first voice signal representative of the first voice data; and

wherein the at least one processor enables adjusting queuing and converting the first voice data according to a propagation delay of a communication network.

Claim 73. (New) The system of claim 72 wherein removing comprises subtracting.

Claim 74. (New) The system of claim 72 wherein removing comprises delaying the portion of the first voice signal represented by the first voice data.

Claim 75. (New) The system of claim 72 wherein the portion removed comprises undesirable components of the first voice signal present in the second voice signal.

Claim 76. (New) The system of claim 72 wherein the at least one processor enables processing of received voice packets to produce the first voice data, and enables processing of the second voice data to produce transmit voice packets.

Claim 77. (New) The system of claim 72 wherein the voice signals representing the first analog representation of the first voice signal are communicatively coupled to a two-wire telephone network connection, and voice signals from the two wire telephone network connection are communicatively coupled to produce a voice signal representing the first analog representation of the first voice signal and the second analog representation of the second voice signal.

## REMARKS

Claims 1-21 were originally filed in the Application on April 12, 2004. A Preliminary Amendment that accompanied the Application cancelled original claims 1-21, and added new claims 22-52. All of claims 22-52 were rejected in the Office action mailed August 22, 2005, to which Applicants filed a response on November 17, 2005. Claims 22-26, 29-34, 36-41, 44-49 and 52 stand rejected, and claims 27, 28, 35, 42, 43, 50 and 51 are objected to in the Office action of February 9, 2006. Claims 26, 27, 35, 42 and 50 are cancelled and new claims 53-77 are added by this amendment. Claims 22, 30, 37, 45, 53, 59, 66 and 72 are independent claims. Claims 23-29, 31-36, 38-44, 46-52, 54-58, 60-65, 67-71 and 73-77 depend, either directly or indirectly, from independent claims 22, 30, 37, 45, 53, 59, 66 and 72, respectively. The Applicants respectfully request reconsideration of claims 22-52, and consideration of new claims 53-77, in light of the follow remarks.

### Amendments to the Specification

The section titled "CROSS-REFERENCE TO RELATED APPLICATIONS" has been amended to update the status of the listed applications, as requested in the Office action (Office action, item 1, page 2), and to add a listing of related U.S. patent applications. The Applicants respectfully submit that these amendments do not add new matter.

The text of the specification has been amended to include a copy of the text of page 122 of United States Patent Application Ser. No. 10/141,506 filed May 8, 2002, (Attorney Docket Nos. 14364US01 and DN37998XGB) (the "'506 application"), which was unintentionally omitted from the Application at the time of filing. However, the Applicants respectfully submit that the omitted page 122 was constructively present in the Application at the time of filing, in that the complete subject matter of the '506 application was incorporated by reference at the time of filing of the Application. Applicants have attached a copy of the relevant portion of the preliminary amendment that accompanied the Application at filing, showing the incorporation by reference of the complete subject matter of the '506 application. Therefore, the Applicants respectfully submit that this amendment to insert the omitted page does not add new matter.

### **Amendments to the Claims**

Independent claim 22 has been made allowable, as recognized in the Office action (item 4, page 4), by amending claim 22 to include the limitations of dependent claim 27, and the limitations of intervening dependent claim 26. Claims 26 and 27 have been cancelled. The Applicants respectfully submit that these amendments do not add new matter.

Independent claim 30 has been made allowable, as recognized in the Office action (item 4, page 4), by amending claim 30 to include the limitations of dependent claim 35. Claim 35 has been cancelled. The Applicants respectfully submit that these amendments do not add new matter.

Independent claim 37 has been made allowable, as recognized in the Office action (item 4, page 4), by amending claim 37 to include the limitations of dependent claim 42. Claim 42 has been cancelled. The Applicants respectfully submit that these amendments do not add new matter.

Independent claim 45 has been made allowable, as recognized in the Office action (item 4, page 4), by amending claim 45 to include the limitations of dependent claim 50. Claim 50 has been cancelled. The Applicants respectfully submit that these amendments do not add new matter.

### **Claim Objections**

Claims 27-28, 35, 42-43 and 50-51 were objected to as being dependent upon a rejected base claim, but were stated to be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. Base claims 22, 30, 37 and 45 have been amended to include, respectively, all of the limitations of claims 27, 35, 42 and 50, and the limitations of any intervening claims, thereby making claims 22, 30, 37 and 45 allowable. Claims 27, 35, 42 and 50 have been cancelled. The Applicants respectfully request that the objections to claims 27-28, 35, 42-43 and 50-51 be withdrawn.

## **Rejections of Claims**

### **Rejection of Claims Under 35 U.S.C. §103**

Claims 22-26, 29-34, 36-41, 44-49 and 52 were rejected under 35 U.S.C. §103(a) as being unpatentable over McCaslin et al. (U.S. Patent 5,631,900) in view of Matsumoto (U.S. Patent 5,812,944) and Kline et al. (U.S. Patent 6,157,653). The Applicants respectfully traverse the rejection. However, in an effort to move the Application to issuance, Applicants have amended claims 22, 30, 37 and 45 as set forth above.

Applicants believe that claims 22, 30, 37 and 45, amended as set forth above, are allowable. Applicants respectfully submit that claims 23-26 and 29, claims 31-34 and 36, claims 38-41 and 44, and claims 46-49 and 52 depend directly or indirectly from independent claims 22, 30, 37 and 45, respectively. Because claims 23-26 and 29, claims 31-34 and 36, claims 38-41 and 44, and claims 46-49 and 52 depend, respectively, from allowable claims 22, 30, 37 and 45, Applicants respectfully submit that claims 23-26 and 29, claims 31-34 and 36, claims 38-41 and 44, and claims 46-49 and 52 are allowable, as well. Therefore, Applicants respectfully request that the rejection of claims 22-26, 29-34, 36-41 and 44-49 and 52 under 35 U.S.C. §103(a), be withdrawn.

### **Newly Added Claims**

Applicants have added new claims 53-77. Claims 53, 59, 66 and 72 are independent claims from which claims 54-58, 60-65, 67-71 and 73-77, respectively, depend either directly or indirectly. Independent claim 53 corresponds to objected to dependent claim 28 rewritten in independent form to include all of the limitations of base claim 22 and any intervening claims. Independent claim 59 corresponds to objected to dependent claim 28 rewritten in independent form to include all of the limitations of base claim 30. Independent claim 66 corresponds to objected to dependent claim 43 rewritten in independent form to include all of the limitations of base claim 37 and any intervening claims. Independent claim 72 corresponds to objected to dependent claim 51 rewritten in independent form to include all of the limitations of base claim 37 and any intervening claims. Applicants respectfully submit that new claims 53, 66 and 72 were deemed allowable by the Office action. (Office action, item 4, page 4) Applicants believe that new claim 59 is allowable

Appln. No.: 10/822,462  
Response dated May 9, 2006  
Reply to Office Action of February 9, 2006

for the same reasons. Applicants respectfully submit that dependent claims 54-58, 60-65, 67-71 and 73-77 depend either directly or indirectly from independent claims 53, 59, 66 and 72, respectively, and are therefore allowable, as well. Applicants respectfully submit that new claims 53-77 do not add new matter.

### Conclusion

The Applicants believe that in light of the reasons set forth above, all of claims 22-25, 28-34, 36-41, 43-49 and 51-77 are in condition for allowance. Should the Examiner disagree or have any questions regarding this submission, the Applicants invite the Examiner to telephone the undersigned at (312) 775-8000 for an interview.

A Notice of Allowability is courteously solicited.

The Commissioner is hereby authorized to charge any additional fees associated with this communication, or credit any overpayment, to Deposit Account No. 13-0017.

Respectfully submitted,

Dated: May 9, 2006

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eliminate compatibility between devices manufactured by different suppliers. This has hindered development of uniform standards for Electronic Data Interchange between portable devices and fixed computing systems.

5           Physical connection between a portable device with a peripheral or communication dock also hinders user efficiency. Peripheral devices are generally attached with cable. If a peripheral is small enough to be carried or worn on a belt, the mobility of the user may be maintained.

10       If a user must carry a hand-held portable device that is connected to a belt mounted peripheral, the assembly cannot be set down while a task that requires movement to a location several feet away is undertaken unless the portable device and peripheral are disconnected. Likewise,

15       connection to peripherals too large to be portable requires the user to frequently connect and disconnect the device and the peripheral.

          Use of wireless peripheral LAN interconnection greatly simplifies the task of portable devices communicating with peripherals. In doing so, wireless connectivity allows

20       improved ergonomics in portable product design, flexibility in interconnection to one or more peripherals, freedom of



**IN THE SPECIFICATION**

Cancel the section "CROSS-REFERENCE TO RELATED APPLICATIONS" and substitute therefore the following new section:

**CROSS-REFERENCE TO RELATED APPLICATIONS**  
**(Claiming Benefit Under 35 U.S.C.)**

This application is a continuation of U.S. Serial No. 10/141,506 filed May 8, 2002, (Attorney Docket Nos. 14364US01 and DN37998XGB) which is a continuation of U.S. Serial No. 09/037,535 filed March 10, 1998, now U.S. Patent No. 6,389,010 issued May 14, 2002, which is a continuation of U.S. Serial No. 08/539,817 filed October 5, 1995, now U.S. Patent No. 5,726,984 issued March 10, 1998.

This application hereby incorporates herein by reference, the complete subject matter of each of the above referenced applications, in their entirety.

After the section "CROSS-REFERENCE TO RELATED APPLICATIONS" insert the following new section:

**STATEMENT REGARDING FEDERALLY SPONSORED  
RESEARCH OR DEVELOPMENT**

N/A



## UNITED STATES PATENT AND TRADEMARK OFFICE

**RESPONSE DUE:**

10-17-06

See

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KEB

**NOTICE OF ALLOWANCE AND FEE(S) DUE**MCANDREWS HELD & MALLOY, LTD  
500 WEST MADISON STREET  
SUITE 3400  
CHICAGO, IL 60661

McANDREWS, HELD &amp; MALLOY

JUL 21 2006

DOCKETED

EXAMINER

NGUYEN, BRIAN D

ART UNIT

PAPER NUMBER

2616

DATE MAILED: 07/17/2006

| APPLICATION NO.   | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|---|-------------|----------------------|---------------------|------------------|
| 10/822,462  | 04/12/2004  | Joseph J. Kubler     | 14364US21           | 4632             |
| TITLE OF INVENTION: HIERARCHICAL DATA COLLECTION NETWORK SUPPORTING PACKETIZED VOICE COMMUNICATIONS AMONG WIRELESS TERMINALS AND TELEPHONES |             |                      |                     |                  |

| APPLN. TYPE    | SMALL ENTITY | ISSUE FEE DUE | PUBLICATION FEE DUE | PREV. PAID ISSUE FEE | TOTAL FEE(S) DUE | DATE DUE   |
|----------------|--------------|---------------|---------------------|----------------------|------------------|------------|
| nonprovisional | NO           | \$1400        | \$300               | \$0                  | \$1700           | 10/17/2006 |

THE APPLICATION IDENTIFIED ABOVE HAS BEEN EXAMINED AND IS ALLOWED FOR ISSUANCE AS A PATENT. **PROSECUTION ON THE MERITS IS CLOSED.** THIS NOTICE OF ALLOWANCE IS NOT A GRANT OF PATENT RIGHTS. THIS APPLICATION IS SUBJECT TO WITHDRAWAL FROM ISSUE AT THE INITIATIVE OF THE OFFICE OR UPON PETITION BY THE APPLICANT. SEE 37 CFR 1.313 AND MPEP 1308.

THE ISSUE FEE AND PUBLICATION FEE (IF REQUIRED) MUST BE PAID WITHIN THREE MONTHS FROM THE MAILING DATE OF THIS NOTICE OR THIS APPLICATION SHALL BE REGARDED AS ABANDONED. **THIS STATUTORY PERIOD CANNOT BE EXTENDED.** SEE 35 U.S.C. 151. THE ISSUE FEE DUE INDICATED ABOVE DOES NOT REFLECT A CREDIT FOR ANY PREVIOUSLY PAID ISSUE FEE IN THIS APPLICATION. IF AN ISSUE FEE HAS PREVIOUSLY BEEN PAID IN THIS APPLICATION (AS SHOWN ABOVE), THE RETURN OF PART B OF THIS FORM WILL BE CONSIDERED A REQUEST TO REAPPLY THE PREVIOUSLY PAID ISSUE FEE TOWARD THE ISSUE FEE NOW DUE.

**HOW TO REPLY TO THIS NOTICE:****I. Review the SMALL ENTITY status shown above.**

If the SMALL ENTITY is shown as YES, verify your current SMALL ENTITY status:

A. If the status is the same, pay the TOTAL FEE(S) DUE shown above.

B. If the status above is to be removed, check box 5b on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and twice the amount of the ISSUE FEE shown above, or

If the SMALL ENTITY is shown as NO:

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B. If applicant claimed SMALL ENTITY status before, or is now claiming SMALL ENTITY status, check box 5a on Part B - Fee(s) Transmittal and pay the PUBLICATION FEE (if required) and 1/2 the ISSUE FEE shown above.

II. PART B - FEE(S) TRANSMITTAL, or its equivalent, must be completed and returned to the United States Patent and Trademark Office (USPTO) with your ISSUE FEE and PUBLICATION FEE (if required). If you are charging the fee(s) to your deposit account, section "4b" of Part B - Fee(s) Transmittal should be completed and an extra copy of the form should be submitted. If an equivalent of Part B is filed, a request to reapply a previously paid issue fee must be clearly made, and delays in processing may occur due to the difficulty in recognizing the paper as an equivalent of Part B.

III. All communications regarding this application must give the application number. Please direct all communications prior to issuance to Mail Stop ISSUE FEE unless advised to the contrary.

**IMPORTANT REMINDER:** Utility patents issuing on applications filed on or after Dec. 12, 1980 may require payment of maintenance fees. It is patentee's responsibility to ensure timely payment of maintenance fees when due.

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|  |             |                      |                     |                  |
|--|-------------|----------------------|---------------------|------------------|
| APPLICATION NO.  | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
| 10/822,462   | 04/12/2004  | Joseph J. Kubler     | 14364US21           | 4632             |
| 23446  | 7590        | 07/17/2006           | EXAMINER            |                  |
| MCANDREWS HELD & MALLOY, LTD<br>500 WEST MADISON STREET<br>SUITE 3400<br>CHICAGO, IL 60661 |             |                      | NGUYEN, BRIAN D     |                  |
|  |             |                      | ART UNIT            | PAPER NUMBER     |
|  |             |                      | 2616                |                  |
| DATE MAILED: 07/17/2006  |             |                      |                     |                  |

**Determination of Patent Term Adjustment under 35 U.S.C. 154 (b)**  
(application filed on or after May 29, 2000)

The Patent Term Adjustment to date is 68 day(s). If the issue fee is paid on the date that is three months after the mailing date of this notice and the patent issues on the Tuesday before the date that is 28 weeks (six and a half months) after the mailing date of this notice, the Patent Term Adjustment will be 68 day(s).

If a Continued Prosecution Application (CPA) was filed in the above-identified application, the filing date that determines Patent Term Adjustment is the filing date of the most recent CPA.

Applicant will be able to obtain more detailed information by accessing the Patent Application Information Retrieval (PAIR) WEB site (<http://pair.uspto.gov>).

Any questions regarding the Patent Term Extension or Adjustment determination should be directed to the Office of Patent Legal Administration at (571)-272-7702. Questions relating to issue and publication fee payments should be directed to the Customer Service Center of the Office of Patent Publication at 1-(888)-786-0101 or (571)-272-4200.

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|                 |               |  |
|-----------------|---------------|--|
| Application No. | Applicant(s)  |  |
| 10/822,462      | KUBLER ET AL. |  |
| Examiner        | Art Unit      |  |
| Brian D. Nguyen | 2616          |  |

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to 5/12/06.
2. ☒ The allowed claim(s) is/are 22-25, 28-34, 36-41, 43-49, and 51-77 (renumbered 1-51, respectively).
3. ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
  - a) ☐ All    b) ☐ Some\*    c) ☐ None    of the:
  1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\* Certified copies not received: \_\_\_\_\_.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.  
**THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.**

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
  - (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
    - 1) ☐ hereto or 2) ☐ to Paper No./Mail Date \_\_\_\_\_.
  - (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date \_\_\_\_\_.Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

**Attachment(s)**

- |   |   |
|---|---|
| <ol style="list-style-type: none"><li>1. <input type="checkbox"/> Notice of References Cited (PTO-892)</li><li>2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)</li><li>3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO-1449 or PTO/SB/08),<br/>Paper No./Mail Date <u>5/5/06 &amp; 6/23/06</u></li><li>4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit<br/>of Biological Material</li></ol> | <ol style="list-style-type: none"><li>5. <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)</li><li>6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),<br/>Paper No./Mail Date <u>20060622</u>.</li><li>7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment</li><li>8. <input type="checkbox"/> Examiner's Statement of Reasons for Allowance</li><li>9. <input type="checkbox"/> Other _____.</li></ol> |
|---|---|

  
**BRIAN NGUYEN**  
**PRIMARY EXAMINER**

7/5/06

**FEB 09 2007**

**EXAMINER'S AMENDMENT**

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

2. Authorization for this examiner's amendment was given in a telephone interview with Kevin E. Borg on 6/22/06.

3. The application has been amended as follows:

Claim 37, line 1, replace "machine-readable" with --computer-readable--. In line 3, delete "machine for causing the machine" and insert --processor-- between "by a" and "to perform the operations".

Claims 38-41 and 43-44, line 1, replace "machine-readable" with --computer-readable--.

Claim 45, between line 4 and line 5, insert --at least one queue located within or external to the at least one processor;--. In line 5, after "queuing the first voice data" insert --into the at least one queue--.

Claim 59, line 10, replace "queue" with --queuing--.

Claim 64, line 2, replace "queue" with --queuing--.

Claim 66, line 1, replace "machine-readable" with --computer-readable--. In line 3, delete "machine for causing the machine" and insert --processor-- between "by a" and "to perform the operations".

Claims 67-71, line 1, replace "machine-readable" with --computer-readable--.

FEB 09 2007

Claim 72, between line 4 and line 5, insert --at least one queue located within or external to the at least one processor;--. In line 5, after "queuing the first voice data" insert --into the at least one queue--.

***Conclusion***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian D. Nguyen whose telephone number is (571) 272-3084. The examiner can normally be reached on 7:30-6:00 Monday-Thursday.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on (571) 272-3134. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

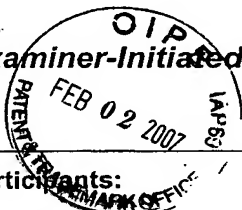
Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

6/22/06

  
**BRIAN NGUYEN**  
**PRIMARY EXAMINER**

**FEB 09 2007**

**Examiner-Initiated Interview Summary**



Application No.

10/822,462

Applicant(s)

KUBLER ET AL.

Examiner

Brian D. Nguyen

Art Unit

2616

**All Participants:**

(1) Brian D. Nguyen.

(2) Kevin E. Borg.

**Status of Application:** \_\_\_\_\_

(3) \_\_\_\_\_

(4) \_\_\_\_\_

**Date of Interview:** 6/22/06

**Time:** \_\_\_\_\_

**Type of Interview:**

- ☒ Telephonic  
☐ Video Conference  
☐ Personal (Copy given to: ☐ Applicant ☐ Applicant's representative)

**Exhibit Shown or Demonstrated:** ☐ Yes ☐ No

If Yes, provide a brief description:

**Part I.**

Rejection(s) discussed:

Claims discussed:

37-41, 43-45, 59, 64, and 66-72

Prior art documents discussed:

**Part II.**

**SUBSTANCE OF INTERVIEW DESCRIBING THE GENERAL NATURE OF WHAT WAS DISCUSSED:**

*Amend the claims to correct the informalities as set forth in the examiner's amendment.*

**Part III.**

- ☒ It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview directly resulted in the allowance of the application. The examiner will provide a written summary of the substance of the interview in the Notice of Allowability.
- ☐ It is not necessary for applicant to provide a separate record of the substance of the interview, since the interview did not result in resolution of all issues. A brief summary by the examiner appears in Part II above.

(Examiner/SPE Signature)

(Applicant/Applicant's Representative Signature – if appropriate)

FEB 09 2007



PTO/SB/08A (08-03)

U.S. Patent and Trademark Office: U.S. DEPARTMENT OF COMMERCE

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**INFORMATION DISCLOSURE  
STATEMENT BY APPLICANT**

(use as many sheets as necessary)

Sheet 1 of 1

**Complete if Known**

|                      |                         |
|----------------------|-------------------------|
| Application Number   | 10/822,462              |
| Filing Date          | April 12, 2004          |
| First Named Inventor | Joseph J. Kubler et al. |
| Group Art Unit       | 2616                    |
| Examiner Name        | Nguyen, Brian D         |
| Attorney Docket No.  | 14364US21               |

**U.S. PATENT DOCUMENTS**

| Examiner Initial* | Cite No. <sup>1</sup> | Document Number                             | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines, Where<br>Relevant Passages or Relevant<br>Figures Appear |
|-------------------|-----------------------|---|--------------------------------|--|---|
|                   |                       | Number-Kind Code <sup>2</sup><br>(if known) |                                |  |   |
| BN                | A1                    | 4,553,081                                   | 11-12-1985                     | Koenck   |   |
|                   | A2                    | 4,716,354                                   | 12-29-1987                     | Hacker   |   |
|                   | A3                    | 4,961,043                                   | 10-02-1990                     | Koenck   |   |
|                   | A4                    | 5,260,988                                   | 11-09-1993                     | Schellinger et al.                                 |   |
|                   | A5                    | 5,371,898                                   | 12-06-1994                     | Grube et al.                                       |   |
|                   | A6                    | 5,420,911                                   | 05-30-1995                     | Dahlin et al.                                      |   |
|                   | A7                    | 5,452,289                                   | 09-19-1995                     | Sharma et al.                                      |   |
|                   | A8                    | 5,533,019                                   | 07-02-1996                     | Jayapalan  |   |
|                   | A9                    | 5,546,077                                   | 10-08-1996                     | Obayashi et al.                                    |   |
|                   | A10                   | 5,594,782                                   | 01-14-1997                     | Zicker et al.                                      |   |
|                   | A11                   | 5,610,910                                   | 03-11-1997                     | Focsaneanu et al.                                  |   |
|                   | A12                   | 5,654,957                                   | 08-05-1997                     | Koyama   |   |
|                   | A13                   | 5,754,542                                   | 05-19-1998                     | Ault et al.  |   |
|                   | A14                   | 5,764,736                                   | 06-09-1998                     | Shachar et al.                                     |   |
| BN                | A15                   | 5,777,991                                   | 07-07-1998                     | Adachi et al.                                      |   |

**FOREIGN PATENT DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Foreign Patent Document   | Publication Date<br>MM-DD-YYYY | Name of Patentee or<br>Applicant of Cited Document | Pages, Columns, Lines,<br>Where Relevant Passages<br>or Relevant Figures Appear | T <sup>6</sup> |
|--------------------|-----------------------|---|--------------------------------|--|---|----------------|
|                    |                       | Country Code <sup>3</sup> -Number <sup>4</sup> -Kind Code <sup>5</sup> (if known) |                                |  |   |                |
| BN                 | B1                    | PCT/WO91/08629  | 06-13-1991                     | Berken   |   |                |

**OTHER ART -- NON PATENT LITERATURE DOCUMENTS**

| Examiner Initials* | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published |
|--------------------|-----------------------|--|
|                    |                       |  |

EXAMINER  
SIGNATURE

/Brian Nguyen/

DATE CONSIDERED

06/22/2006

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Rev. Sept. 03

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|-------|---|----|---|
| Sheet | 1 | of | 1 |
|-------|---|----|---|

|                             |                         |
|-----------------------------|-------------------------|
| <b>Application Number</b>   | 10/822,462              |
| <b>Filing Date</b>          | April 12, 2004          |
| <b>First Named Inventor</b> | Joseph J. Kubler et al. |
| <b>Group Art Unit</b>       | 2616                    |
| <b>Examiner Name</b>        | Nguyen, Brian D         |
| <b>Attorney Docket No.</b>  | 14364US21               |

|                    |                       |  |
|--------------------|-----------------------|--|
| Examiner Initials* | Cite No. <sup>1</sup> | Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published |
|--------------------|-----------------------|--|

|    |    |   |
|----|----|---|
| BN | C1 | Amended Preliminary Invalidity Contentions with Exhibit E, 02/21/2006   |
| BN | C2 | KOYAMA et al., "Personal Multimedia Communication Systems", 44(4), Hitachi Review 207, Hitachi, Ltd., 08/1995 |

|                       |                |                 |            |
|-----------------------|----------------|-----------------|------------|
| EXAMINER<br>SIGNATURE | /Brian Nguyen/ | DATE CONSIDERED | 07/05/2006 |
|-----------------------|----------------|-----------------|------------|

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